



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2016-9049; Directorate Identifier 2016-NM-039-AD]**

**RIN 2120-AA64**

**Airworthiness Directives;** Empresa Brasileira de Aeronautica S.A. (Embraer) Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Empresa Brasileira de Aeronautica S.A. (Embraer) Empresa Brasileira de Aeronautica S.A. (Embraer) Model EMB-135BJ, -135ER, -135KE, -135KL, and -135LR airplanes; and Model EMB-145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes. This proposed AD was prompted by reports of main airspeed indication discrepancies during flight; these discrepancies resulted from ice blockages in certain pitot total pressure lines. This proposed AD would require an inspection for tube misalignment of the pitot number 1 and pitot number 2 tube assembly lines, and corrective actions if necessary; installation or replacement (as applicable) of a tube ribbon heater on the pitot number 1 and pitot number 2 tube assembly lines; and revision of the airplane flight manual (AFM) to provide certain procedures and airspeed tables for the flightcrew. We are proposing this AD to detect and correct water accumulating and freezing in the pitot number 1 and pitot number 2 total pressure lines, which could result

in erroneous main airspeed indications and consequent reduced ability of the flightcrew to maintain safe flight and landing of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Empresa Brasileira de Aeronautica S.A. (Embraer), Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – Brasil; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); Internet <http://www.flyembraer.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9049; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1175; fax 425-227-1149.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-9049; Directorate Identifier 2016-NM-039-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## **Discussion**

Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directive 2016-03-01, effective March 11, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Empresa Brasileira de Aeronautica S.A. (Embraer) Model EMB-135 airplanes, and Model EMB-145, -145ER, -145MR, -145LR, -145XR, -145MP, and -145EP airplanes.

The MCAI states:

This [Brazilian] AD results from reports of main airspeed indication discrepancies during flight. The investigation has revealed that Pitot #1 and #2 total pressure line blockage may occur due to water accumulation and freezing during heavy rain conditions. We are issuing this [Brazilian] AD to prevent water accumulation and freezing in the Pitot #1 and Pitot #2 total pressure lines, which could result in erroneous main airspeed indications and reduce the ability of the flight crew to maintain the safe flight and landing of the airplane.

Since this condition may occur in other airplanes of the same type and affects flight safety, a corrective action is required. Thus, sufficient reason exists to request compliance with this [Brazilian] AD \* \* \*.

The required actions include a general visual inspection for tube misalignment of pitot number 1 and pitot number 2 tube assembly lines. Corrective actions include replacement

of affected pitot tubes with new pitot tubes. The required actions also include installation, or, for certain airplanes, replacement, of a tube ribbon heater on the pitot number 1 and pitot number 2 tube assembly lines, and revision of the AFM to provide certain procedures and airspeed tables for the flightcrew. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9049.

#### **Related Service Information under 1 CFR part 51**

Embraer has issued the following service information.

- Embraer Service Bulletin 145-30-0056, Revision 01, dated March 31, 2014; and Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014. This service information describes procedures to inspect the pitot pressure tubes for misalignment, install new heaters, and perform repairs.

- Embraer Temporary Revision (TR) 19.1, dated April 22, 2014, to Volume 1 of the Embraer EMB-145 Aircraft Operations Manual (AOM) AOM-2014135/1542. This service information contains, among other things, the “Unreliable Airspeed Procedure” in the Emergency/Abnormal Procedures section and the “Unreliable Airspeed Tables” (corresponding to the airplane configuration) in the Performance section.

- Embraer TR 40.2, dated April 4, 2014, to Volume 1, of the Embraer EMB-145 AOM AOM-145/1114. This service information contains, among other things, the “Unreliable Airspeed Procedure” in the Emergency/Abnormal Procedures section and the “Unreliable Airspeed Tables” (corresponding to the airplane configuration) in the Performance section.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **FAA's Determination and Requirements of this Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of these same type designs.

#### **Costs of Compliance**

We estimate that this proposed AD affects 668 airplanes of U.S. registry.

We also estimate that it would take up to 5 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Required parts would cost about \$3,254 per product. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be up to \$2,457,572, or up to \$3,679 per product.

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do

not control warranty coverage for affected individuals. As a result, we have included all available costs in our cost estimate.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Empresa Brasileira de Aeronautica S.A. (Embraer):** Docket No. FAA-2016-9049; Directorate Identifier 2016-NM-039-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].



**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the Empresa Brasileira de Aeronautica S.A. (Embraer) airplanes, certificated in any category, identified in paragraphs (c)(1) through (c)(4) of this AD.

(1) Model EMB-135ER, EMB-135KE, EMB-135KL, EMB-135LR, EMB-145, EMB-145EP, EMB-145ER, EMB-145LR, EMB-145MP, EMB-145MR, and EMB-145XR airplanes, as identified in Embraer Service Bulletin 145-30-0056, Revision 01, dated March 31, 2014.

(2) Model EMB-135BJ airplanes, as identified in Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014.

(3) Model EMB-135ER, EMB-135KE, EMB-135KL, EMB-135LR, EMB-145, EMB-145EP, EMB-145ER, EMB-145LR, EMB-145MR, EMB-145MP, and EMB-145XR airplanes, manufacturer serial numbers (MSNs) 14501153 and subsequent.

(4) Model EMB-135BJ airplanes, MSNs 14501190 through 14501197 inclusive, 14501199 through 14501210 inclusive, 14501212 through 14501227 inclusive, and 14501229 through 14501249 inclusive and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 30, Ice and rain protection.

**(e) Reason**

This AD was prompted by reports of main airspeed indication discrepancies during flight; these discrepancies resulted from ice blockages in certain pitot total pressure lines. We are issuing this AD to detect and correct water accumulating and freezing in the pitot number 1 and pitot number 2 total pressure lines, which could result in erroneous main airspeed indications and consequent reduced ability of the flightcrew to maintain safe flight and landing of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection, Corrective Action, and Installation**

(1) For airplanes identified as Group 1 in Embraer Service Bulletin 145-30-0056, Revision 01, dated March 31, 2014: Within 6,600 flight hours after the effective date of this AD, do a general visual inspection for tube misalignment on the pitot number 1 and pitot number 2 tube assemblies; do all applicable corrective actions; and install a new tube ribbon heater on the pitot number 1 and pitot number 2 tube assemblies; in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145-30-0056, Revision 01, dated March 31, 2014. Do all applicable corrective actions before further flight.

(2) For airplanes identified as Group 1 in Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014: Within 5,000 flight hours or 48 months after the effective date of this AD, whichever occurs first, do a general visual inspection for tube misalignment on the pitot number 1 and pitot number 2 tube assemblies; do all

applicable corrective actions; and install a new tube ribbon heater on the pitot number 1 and pitot number 2 tube assemblies; in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014. Do all applicable corrective actions before further flight.

**(h) Inspection, Corrective Action, and Replacement**

(1) For airplanes identified as Group 2 in Embraer Service Bulletin 145-30-0056, Revision 01, dated March 31, 2014: Within 6,600 flight hours after the effective date of this AD, do a general visual inspection for tube misalignment on the pitot number 1 and pitot number 2 tube assemblies; do all applicable corrective actions; and replace the tube ribbon heater with a new tube ribbon heater on the pitot number 1 and pitot number 2 tube assemblies; in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145-30-0056, Revision 01, dated March 31, 2014. Do all applicable corrective actions before further flight.

(2) For airplanes identified as Group 2 in Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014: Within 5,000 flight hours or 48 months after the effective date of this AD, whichever occurs first, do a general visual inspection for tube misalignment on the pitot number 1 and pitot number 2 tube assemblies; do all applicable corrective actions; and replace the tube ribbon heater with a new tube ribbon heater on the pitot number 1 and pitot number 2 tube assemblies; in accordance with the Accomplishment Instructions of Embraer Service Bulletin 145LEG-30-0021, dated March 31, 2014. Do all applicable corrective actions before further flight.

**(i) Airplane Flight Manual (AFM) Revision**

(1) For airplanes identified in paragraphs (c)(1) and (c)(3) of this AD: Within 60 days after the effective date of this AD, revise the AFM to include the information in the “Unreliable Airspeed Procedure” in the Emergency/Abnormal Procedures section and the “Unreliable Airspeed Tables” (corresponding to the airplane configuration) in the Performance section, as specified in Embraer Temporary Revision (TR) 40.2, dated April 4, 2014, to Volume 1, of the Embraer EMB-145 Aircraft Operations Manual (AOM) AOM-145/1114 (“Embraer TR 40.2”).

(2) For airplanes identified in paragraphs (c)(2) and (c)(4) of this AD: Within 60 days after the effective date of this AD, revise the AFM to include the information in the “Unreliable Airspeed Procedure” in the Emergency/Abnormal Procedures section and the “Unreliable Airspeed Tables” (corresponding to the airplane configuration) in the Performance section, as specified in Embraer TR 19.1, dated April 22, 2014, to Volume 1 of the Embraer EMB-145 AOM AOM-2014135/1542 (“Embraer TR 19.1”).

**(j) AFM Revision Method of Compliance**

The AFM revisions required by paragraphs (i)(1) and (i)(2) of this AD may be done by inserting Embraer AOM TR 40.2 or Embraer AOM TR 19.1, as applicable, into the AFM. When the applicable Embraer AOM TR has been included in general revisions of the AFM, the general revisions may be inserted in the AFM, provided the relevant information in the general revision is identical to that in Embraer AOM TR 40.2 or Embraer AOM TR 19.1, as applicable, and the applicable Embraer AOM TR may be removed from the AFM.

**(k) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraphs (g)(1) and (h)(1) of this AD, if those actions were performed before the effective date of this AD using Embraer Service Bulletin 145-30-0056, dated December 19, 2013.

**(l) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1175; fax 425-227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the Agência Nacional de Aviação Civil (ANAC); or ANAC's

authorized Designee. If approved by the ANAC Designee, the approval must include the Designee's authorized signature.

**(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Brazilian Airworthiness Directive 2016-03-01, effective March 11, 2016, for related information.

This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9049.

(2) For service information identified in this AD, contact Empresa Brasileira de Aeronautica S.A. (Embraer), Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – Brasil; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); Internet <http://www.flyembraer.com>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on August 18, 2016.

Dorr M. Anderson,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.  
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